

ABSTRACT

The present invention is a method of optimized performance of bioprocesses involving complex nutrient mixture. This process includes periodically and alternately stopping a supply of each nutrient in the complex nutrient mixture to a culture of microorganisms until the metabolic activity of the microorganisms decreases by a preset percentage, calculating a new feed concentration of the complex nutrients, and adjusting the amount of each nutrient supplied to the microorganism with an optimization routine. Devices for implementing the present methods and processes are also provided.